

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA2005/000527

### Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of the first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons :

1. ☐ Claim Nos. :  
because they relate to subject matter not required to be searched by this Authority, namely :
2. ☐ Claim Nos. :  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically :
3. ☐ Claim Nos. :  
because they are dependant claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows :

Claims 1 to 24, 56, 58, 60 and 61 are directed to supported catalysts comprising a transition metal oxide and a transition metal aluminate optionally with a rare-earth metal oxide.

Claims 25 to 55 to 57, 59 and 61 are directed to a method of preparation and the product formed comprising a catalytically active component, with a support and optionally a promoter, at a pH of 7 to 8.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claim Nos. :
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim Nos. :

- Remark on Protest** ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7): B01J 23/76, B01J 23/755, B01J 37/08  According to International Patent Classification (IPC) or to both national classification and IPC				
<b>B. FIELDS SEARCHED</b>  Minimum documentation searched (classification system followed by classification symbols) IPC(7): B01J 23/76, B01J 23/755, B01J 37/08, B01J 23/83, B01J 37/02, B01J 37/04  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used) Canadian Patent Database, Delphion, USPTO database.				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	CA 2,196,349 (CHEUNG et al) 01 August 1997, (01-08-1997) page 2, lines 14 to 19; page 3, lines 14 to 19; claims 1 and 4.	1, 2, 4, 19, 20		
X	US 6,013,173 (BOGDAN) 11 January 2000, (11-01-2000) col. 2, lines 55 to 67; col. 7, lines 38 to 48; col. 8, lines 8 to 28.	1, 2, 6 to 9, 12, 15, 19, 20		
X	US 6,048,449 (BOGDAN) 11 April 2000 (11-04-2000) col. 2, line 56 to col. 3, line 10; col. 5, lines 47 to 53; col. 7, lines 38 to 56.	1, 2, 6 to 9, 12, 15, 19, 20		
X	WO 02 089978 (HUI et al) 14 November 2002 (14-11-2002) page 3, lines 20 to 25; page 7, line 15 to page 9, line 13; page 13, lines 9 to 15; page 14, lines 1 to 8; examples 1 to 4; claims.	25, 27, 30 to 35, 39 to 46, 50 to 55, 61		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.				
* Special categories of cited documents : <table border="0"> <tr> <td style="vertical-align: top;">           "A" document defining the general state of the art which is not considered to be of particular relevance            "E" earlier application or patent but published on or after the international filing date            "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)            "O" document referring to an oral disclosure, use, exhibition or other means            "P" document published prior to the international filing date but later than the priority date claimed         </td> <td style="vertical-align: top;">           "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention            "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone            "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art            "&amp;" document member of the same patent family         </td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family			
Date of the actual completion of the international search 13 July 2005 (13-07-2005)		Date of mailing of the international search report 20 July 2005 (20-07-2005)		
Name and mailing address of the ISA/CA Canadian Intellectual Property Office Place du Portage I, C114 - 1st Floor, Box PCT 50 Victoria Street Gatineau, Quebec K1A 0C9 Facsimile No.: 001(819)953-2476		Authorized officer Joseph L. Herd� (819) 997-2945		

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CA 1,196,907 (SAMBOOK et al) 19 November 1985 (19-11-1985) page 2c, page 2d, pages 7 to 8; examples; claims	26 to 46, 49 to 56, 61
X	CA 2,359,940 (DUNLEAVY et al) 27 July 2000 (27-07-2000) page 1, lines 18 to 33; page 2, line 31 to page 3, line 10; examples; claims.	26 to 46, 49 to 56, 61
X	US 4,060,498 (KAWAGOSHI et al) 29 November 1977 (29-11-77) the whole document.	55, 56
X	US 6,103,660 (VAN YPEREN et al) 15 August 2000 (15-08-2000) col. 2, lines 42 to 54; col. 3, lines 17 to 27; claims.	26 to 30, 33 to 46, 48 to 56, 61
A	US 4,456,703 (ALDRIDGE) 26 June 1984 (26-06-1984) the whole document.	1 to 24, 56, 58, 60, 61
A	US 5,100,857 (SATO et al) 31 March 1992 (31-03-1992) the whole document.	1 to 24, 56, 58, 60, 61
A	US 5,714,092 (VAN LOOIJ et al) 3 February 1998 (03-02-1998) col. 3, line 62 to col. 4, line 5.	1 to 24, 56, 58, 59, 60

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